Remote Sensing Applications Division (RSAD)

CDR Program Office

Weekly Report for Jan 23, 2015
Ed Kearns, Chief

CDRP Open Change Requests

Name of CDR	C-ATBD	Data Flow Diagram	Maturity Matrix	VDD	Source Code	NetCDF sample	Dataset	Request to Archive	Approved for Archive	SA	DSRR
Geostationary IR Channel Brightness Temperature - GridSat B1	1/31/2015	1/31/2015	1/31/2015	N/A	√	√	√	√	√	√	Aug-13
Sea Surface Temperature - Pathfinder	Will not be receiving from U of Miami	No change	No change	√	√	√	onhold indefinitely	√	√	onhold indefinitely	onhold indefinitely
Mean Layer Temperature - UAH	Returned to PI for edits	√	N/A	√	onhold indefinitely	onhold indefinitely	onhold indefinitely	onhold indefinitely	onhold indefinitely	onhold indefinitely	onhold indefinitely
Sea Ice Concentration	Will be modified internally once the DFD is delivered	√	N/A	N/A	√	N/A	N/A	N/A	N/A	N/A	N/A

GST FY14 Subcontracts (7 CDRs)

PI	CDRs	Impl Plan	QA Procedure	QA Results/ Summary	Annual Report
Christy	Mean Layer Temperature - UAH	√	√		
Ho	- Mean Layer Temperature - UCAR (Lower Stratosphere) - Mean Layer Temperature - UCAR (Troposphere and Stratosphere) - Tropopause Height Climatology	√			
Robinson	Snow Cover Extent (Northern Hemisphere)	√			
Sorooshian	Precipitation - PERSIANN-CDR	√			
Zhang	ISCCP Radiation Budget	√	and QA graphic tools		
Wentz	SSMI(S) Brightness Temperature - RSS	√			
Mears	Mean Layer Temperature - RSS	√			

GST FY15 Subcontract Candidates (14 CDRs)

PI	CDRs
Christy	Mean Layer Temperature - UAH
Ho	Mean Layer Temperature - UCAR (Upper Trop & Lower Strat) Mean Layer Temperature - UCAR (Lower Strat) Tropopause Height Climatology
Robinson	Snow Cover Extent (Northern Hemisphere)
Sorooshian	Precipitation - PERSIANN-CDR
Wentz	SSMI(S) Brightness Temperature - RSS
Mears	Mean Layer Temperature - RSS
Fetterer	Sea Ice Concentration - Annual Sea Ice Concentration - Daily
Pilewskie	Total Solar Irradiance
Clayson	Sea Surface Temperature - WHOI Ocean Near Surface Properties Ocean Heat Fluxes

CDR Program Office

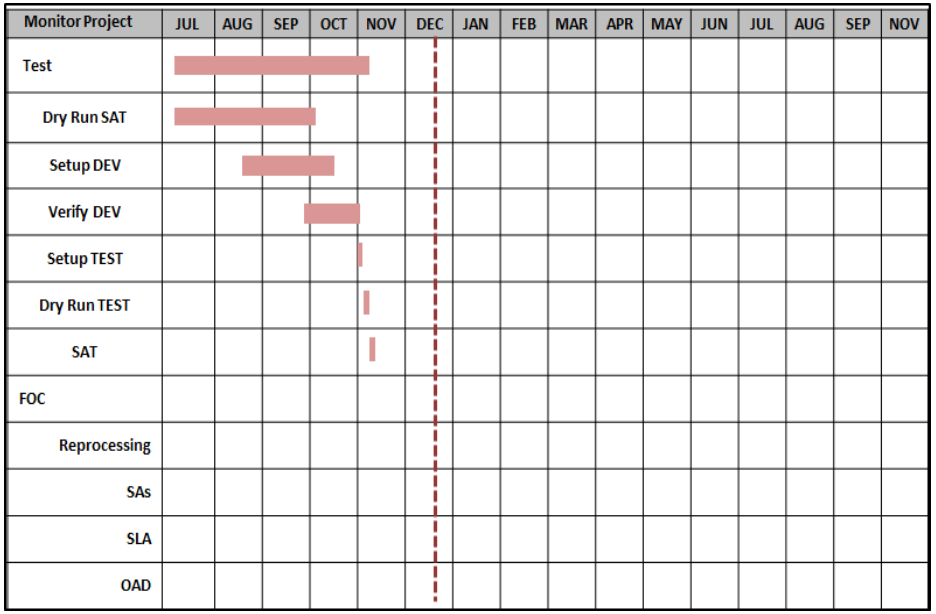
OISST Rejuvenation Project

Team Lead:
Drew Saunders

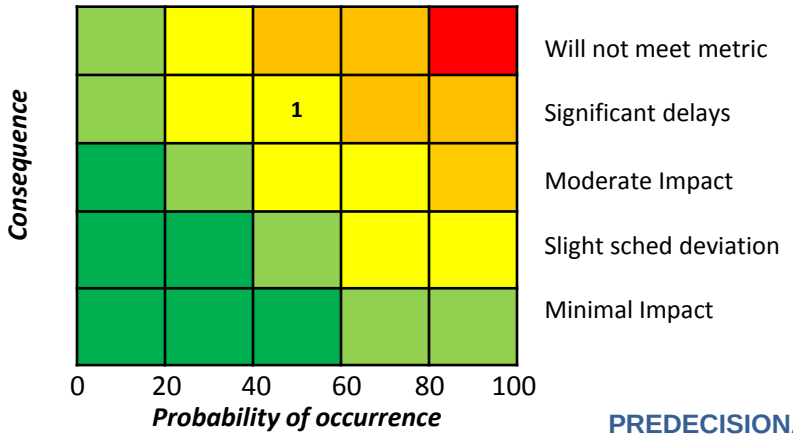
Weekly Report – January 23, 2014

1 ISST – Optimum Interpolated Sea Surface Temperature

- **Resolved issue with GRADs on oisst-dev.**
- **Cleaned oisst-test so a new oisst-test container can be built.**
- **Resolving differences in high res ice code to convert to low res ice for SST.**
- **Update schedule when sea ice issue resolved.**
- Submitted ATRAC entry for archive of Navy SST files from NAVO.
- Resolved differences in 32 and 64 bit runs. Discussed with PI.
- Performing dry runs for the System Acceptance Test (SAT).
- Successfully completed 30 day parallel test.
- Comparing NCDC GTS with NCEP ship/buoy data for use. GCAD is resolving issues but requires new operational code.
- GSTWG discussing inputs and production of preliminary OISST.
- Created a SOP for operational OISST.
- Completed refactoring of each component.
- Conducted Technology Assessment Review.



Risk Matrix



Risk and Mitigation

1 Time to progress through the three tier environment. ITB support is required.

CDR Program Office

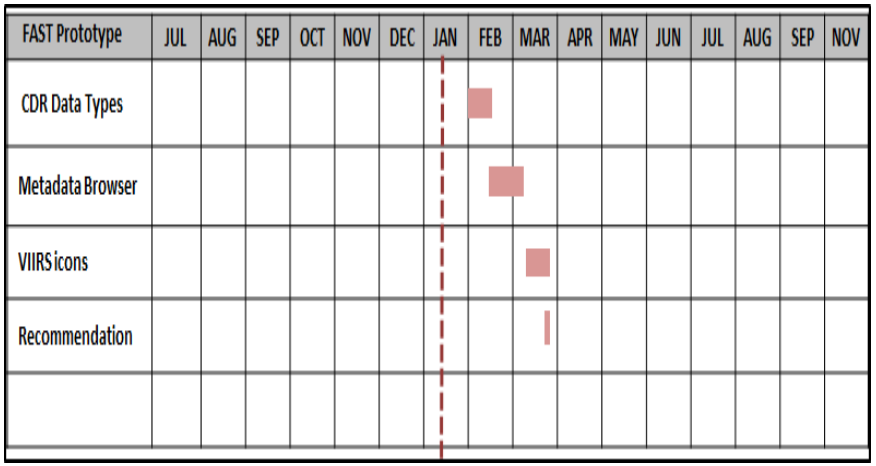
Federated Archive Search Tool (FAST)

Team Lead:
Linda Copley

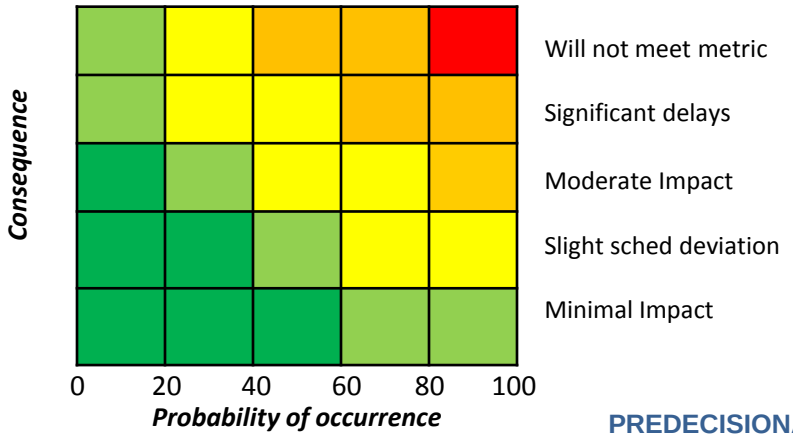
Weekly Report January 23, 2014

1 Federated Archive Search Tool proof-of-concept

- **Updated schedule for ingest delay.**
- Adding CDR collection level metadata to query CDRs.
- Added VIIRS query capability.
- Working on display application to demonstrate query capabilities.
- Connected all data to geographic and date references.
- Designed and loaded VIIRS catalog graph data.
- Designed and loaded Storm Events graph data.
- Loaded FIPS geographic data.
- Installed Neo4j graph database with spatial extension.



Risk Matrix



Risk and Mitigation

PREDECISIONAL DRAFT INFORMATION

= On-track = Potential management action required = Management attention required

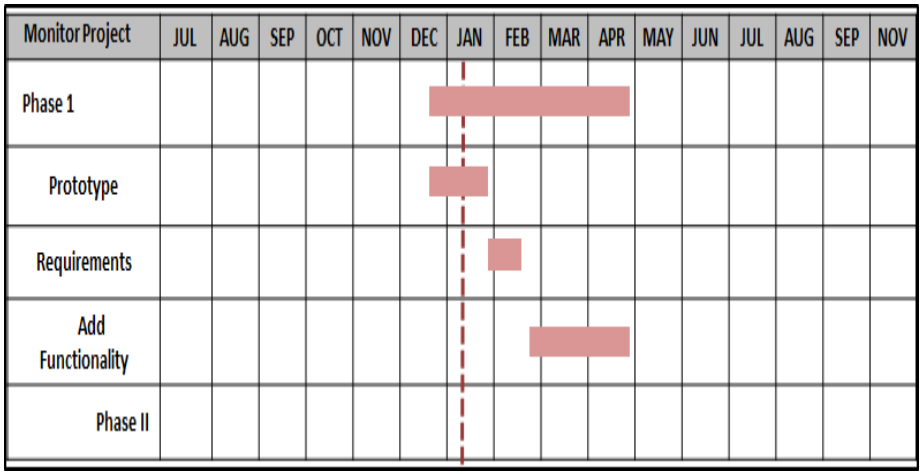
CDR Program Office
Ingest Monitoring Tool

Team Lead:
Linda Copley

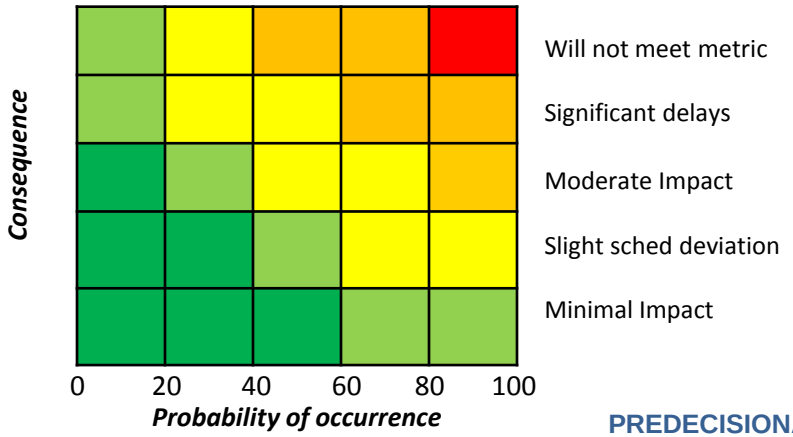
Weekly Report – January 23, 2014

1 Operations Monitoring Tool development

- **Implementing Logstash and Kibana for gathering and visualizing logs.**
- **Updated notional schedule.**
- Re-engineered design to be compatible with other status monitoring efforts.
- Utilizing SIPGenSys infrastructure.
- Designing module to collect status data from iRODS.
- Working on database design.
- Defined requirements for Phase 1 of the project.
- Phase 1 implements basic functionality.
- Additional datasets can be added in later phases.
- Updated the monitoring project plan.
- Monitoring of operational ingest.



Risk Matrix



Risk and Mitigation

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CDR Program Office
Reprocessing VIIRS SDRs

Team Lead:
Jim Biard

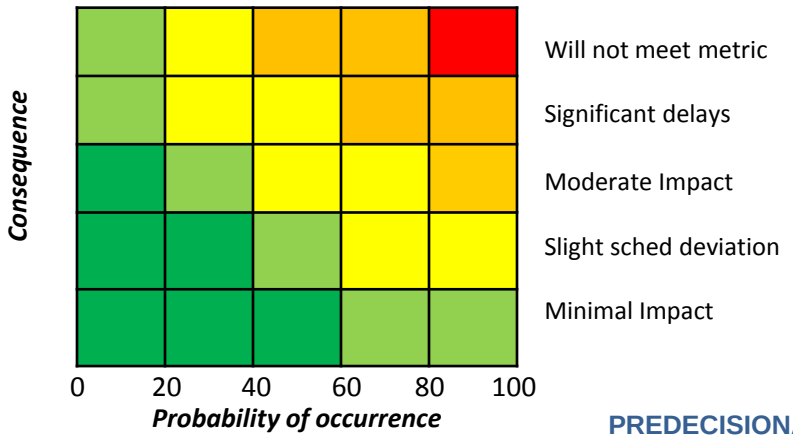
Weekly Report – January 23, 2014

1 Reprocessing VIIRS SDRs

- **On hold as work Obs4MIBs and FAST application.**
- Defined schedule estimates for project.
- Talking with STAR scientists (Changyong Cao, etc) to identify parrallelization capability of VIIRS algorithms.
- Developed draft white paper to identify issues and scope.
- Have identified parts of the algorithm that need to 'conditioned' during runtime and will affect reprocessing estimates.
- Discussed scope and goals of the project with CDRP scientist.

Milestone	Begin Date	End Date	Effort (Days)
Develop VIIRS SDR granule comparator	TBD	TBD	10
Obtain data and software	TBD	TBD	5
Configure ADL	TBD	TBD	10
Produce matching reprocessed VIIRS SDR granules	TBD	TBD	20
Analyze requirements for parallel reprocessing	TBD	TBD	5
Develop parallel reprocessing management system	TBD	TBD	10
Determine practical limits on parallel reprocessing	TBD	TBD	20
Write a final report	TBD	TBD	5

Risk Matrix



Risk and Mitigation

CDR Program Office

01B-06 Outgoing Longwave Radiation – Monthly Outsourced Software Rejuvenation Project

PI Deliverables Report – January 22, 2015

10. Operational Algorithm Description (OAD) Draft
- Due 1/17/2014

9. Package of input and output data sets used for targeted unit level test of rejuvenated source code
- Due 1/17/2014

8. Package of all rejuvenated source codes and scripts passing the targeted unit level test
- Due 1/17/2014

7. Rejuvenated source code of one software component for initial assessment
- Received 10/24/2014. OB assessment performed with significant findings and verbal feedback to PI. Written report pending.

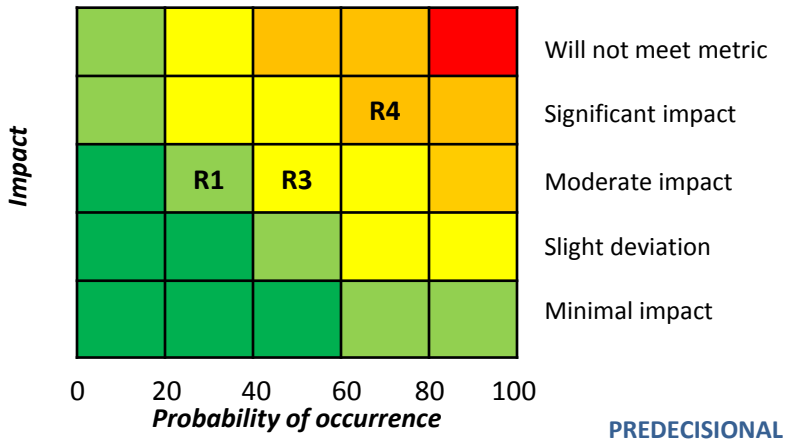
6. Data Flow Diagram
- Received 10/24/2014 as Slide 6 of Deliverable 5.

5. Code Design Diagrams
- Received 10/24/2014 Not yet in CDRP Library.

4. Implementation Plan
- Received 10/24/2014 No approval record, not in CDRP Library.

01B-06 OLR Monthly s/w rejuvenation		2014						2015				
Deliverable		Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	M
1	Report on updated baseline											
2	VDD Draft											
3	Code static analysis report											
4	Implementation plan											
5	Code design diagrams											
6	Data flow diagram											
7	Rejuvenated code sample											
8	Package of all rejuvenated code											
9	Test data package											
10	OAD Draft											
11	SAT plan & procedure											
12	Rejuvenated code static analysis report											
13	Finalized rejuvenated software package											
14	Finalized test data package											
15	Finalized engineering documentation											
16	Finalized C-ATBD and Maturity Matrix											
17	Report PI support for NCDC test runs											
18	Report PI support for NCDC operational runs											
19	Final Report											

Risk Matrix



Top Risks and ~~Mitigation~~

R1. Potential for rework as a result of not assigning software engineering resources to review PI deliverables in a timely fashion.

~~R2. Potential for rework as a result of pending FOC requirement D-0008 regarding number of dataset epochs per file.~~

- D-0008 deleted after discussing with Carl Schreck. Risk retired.

R3. No project charter identifying project manager – unclear authority

R4: Deliverables 8, 9, 10 at risk due to rework from OB review of Deliverable 7.

- BN emailed PI evening of 1/21 to determine status

CDR Program Office

01B-02 Geostationary IR Channel Brightness Temperature – GridSat B1

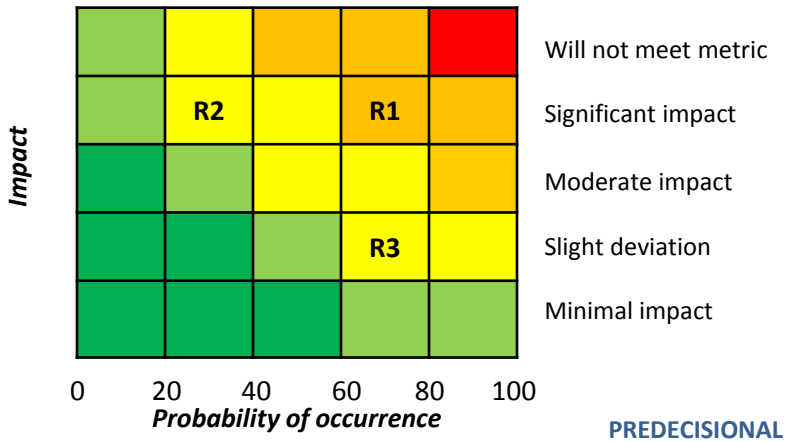
Status Report – January 22, 2015

- **Technical Assessment delivered 1/16 [CDRP-RPT-0531 Rev.2]**
- **Shortfalls wrt current IOC standards for documentation and software**
  - Option A: Proceed immediately with s/w rejuvenation
    - 24 person-months (+/-25% or more) by parametric cost model
  - Option B: Take GridSat to current IOC standards
  - Option C: Take GridSat to current IOC standards and automate production
    - Proceeding with this in absence of formal ATP
  - Option D: Take GridSat to current IOC standards and begin technical assessment of ISCCP
- **Option C involves two Change Requests:**
  - Coordination meeting 1/21 between relevant Subtask 1 & 3 staff
  - CR 0018 R1 for documentation package (C-ATBD, DFD, MM, README)
    - Open for ~2 years, want to close by 2/13
    - Current DFD/Cookbook on website exposes NCDC internals, security risk
  - CR TBD for automation, copyrights, baseline in Subversion

Schedule

- CR 0018 R1 close 2/13/2015
- CR TBD close 3/31/2015

Risk Matrix



Top Risks and Mitigation

R1. Availability of PI/SME to complete CR 0018 items by 1/30

R2. Potential issues with 3rd party copyrights

R3. Availability of CDRP CM Specialist to open new CR